



To present frequency and types of complications related to silicone (SI) versus polyurethane (PUR) catheters of totally implanted venous access devices (TIVADs) placed in the upper arm” Busch et al (2017).

Abstract:

PURPOSE: To present frequency and types of complications related to silicone (SI) versus polyurethane (PUR) catheters of totally implanted venous access devices (TIVADs) placed in the upper arm.

MATERIAL AND METHODS: A cohort of 2,491 consecutive patients with TIVADs implanted between 2006 and 2015 was retrospectively analyzed. Complications were classified according to SIR guidelines. Pearson χ^2 test was used for categorical variables, and Student t test was used for continuous variables. Nominal P values were reported, and 2-sided P values < .05 were considered significant.

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RESULTS: Of 2,270 patients meeting the inclusion criteria, 538 had an SI catheter, and 1,732 had a PUR catheter. Total dwell time was 584,853 catheter days. Mean total complication

rate was 12.25% (SI, 14.87%; PUR, 11.43%; $P = .040$). Subanalysis revealed significant differences for material failures (eg, catheter fracture [SI, 3.35%; PUR, 0.06%; $P < .001$] and thrombotic catheter occlusion/venous thromboses [SI, 2.79%/0.74%; PUR, 1.33%/3.17%; $P < .001$]) but nonsignificant differences for infections (eg, local infection and catheter-related sepsis [SI, 4.64%; PUR, 4.68%; $P = 1$]) or other nonthrombotic dysfunctions (eg, catheter detachment, line migration, wound dehiscence [SI, 3.35%; PUR, 2.19%; $P = .179$]).

CONCLUSIONS: The reported data suggest different risk profiles in SI catheters compared with PUR catheters, with more material failures and thrombotic catheter occlusions in SI catheters and more venous thromboses in PUR catheters.

Reference:

Busch, J.D., Vens, M., Mahler, C., Herrmann, J., Adam, G. and Ittrich, H. (2017) Complication Rates Observed in Silicone and Polyurethane Catheters of Totally Implanted Central Venous Access Devices Implanted in the Upper Arm. *Journal of Vascular and Interventional Radiology*. May 24th. .

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